WEST Search History

DATE: Monday, March 24, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L6	l2 and oocysts	12	L6
L5	l4 and oocysts	5	L5
L4	L3 and cryptosporidium	36	L4
L3	L2 and produc?	4466	L3
L2	IgG1	4928	L2
DB=USPT; PLUR=YES; OP=OR			
L1	5643772	7	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 11 through 12 of 12 returned.

☐ 11. WO 9852974 A1 . 19 May 98. 26 Nov 98. ANTIBODIES TO CRYPTOSPORIDIUM. VESEY, GRAHAM, et al. C07K016/20; G01N033/569 G01N033/577.

☐ 12. WO 9852974 A1 AU 738798 B AU 9875117 A EP 991667 A1 . New IgG1 antibodies specific to Cryptosporidium oocyst surface - useful in analysis of e.g. drinking water, prepared e.g. using antigen obtained from oocyst wall. SLADE, M B, et al. C07K016/20 G01N033/569 G01N033/577.

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Terms	Documents
l2 and oocysts	12

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Search Results - Record(s) 1 through 7 of 7 returned.

☐ 1. 6514697 . 06 Jun 00; 04 Feb 03. Methods for detection of Crytosporidium species and isolates and for diagnosis of Cryptosporidium infections. Petersen; Carolyn, et al. 435/6; 435/91.2 530/350 536/23.1 536/24.3. C12Q001/68 C07H021/02 C07H021/04 C12P019/34 C07K014/00.

☐ 2. 6395517 . 18 Jul 00; 28 May 02. Methods and kits for detection of cryptosporidium parvum. Abbaszadegan; Morteza, et al. 435/91.2; 435/6 435/91.1 536/22.1 536/23.1 536/24.1 536/24.2 536/24.3 536/24.33. C12Q001/68 C12P019/34 C07H021/00 C07H021/04.

☐ 3. 6153411 . 30 Oct 98; 28 Nov 00. Methods and kits for detection of Cryptosporidium parvum using immunomagnetic separation and amplification. Abbaszadegan; Morteza, et al. 435/91.2; 435/6 536/23.1 536/24.3 536/24.31 536/24.32 536/24.33. C12P019/34 C12Q001/68 C07H021/04.

☐ 4. 6139757 . 28 Mar 97; 31 Oct 00. Method of separating cells from blood using a filter having a changeable porosity. Ohmura; Yoshitaka, et al. 210/797; 210/351 210/453 210/489 210/767 435/2. B01D025/26.

☐ 5. 6071518 . 12 Sep 97; 06 Jun 00. GP900 glycoprotein and fragments for treatment and detection/diagnosis of cryptosporidium. Petersen; Carolyn. 424/139.1; 424/151.1 424/172.1 424/191.1 424/192.1 424/269.1 530/350 536/23.4 536/23.7. A61K039/395 A61K039/002 C12N015/31 C07K014/44.

☐ 6. 6015882 . 14 Aug 96; 18 Jan 00. Vaccines, antibodies, proteins, glycoproteins, DNAs and RNAs for prophylaxis and treatment of Cryptosporidium parvum infections. Petersen; Carolyn, et al. 530/350; 424/191.1. C07K001/00.

☐ 7. 5643772 . 03 Apr 95; 01 Jul 97. Cryptosporidium hybrid vector and transformed host cells. Petersen; Carolyn, et al. 435/252.33; 435/252.3 435/320.1 536/23.7. C12N015/00 C12N001/20.

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Terms	Documents
5643772	7

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     (FILE 'HOME' ENTERED AT 19:20:21 ON 24 MAR 2003)

     FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH,
     USPATFULL, JAPIO' ENTERED AT 19:20:29 ON 24 MAR 2003
L1           133 S CRYTOSPORIDIUM
L2            62 S L1 AND OOCYSTS
L3             1 S L2 AND IGG1
L4             4 S L2 AND IGG
L5            38 S L1 AND ANTIBOD?
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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. 6475747 . 28 Oct 97; 05 Nov 02. Method for detecting Cryptosporidium parvum oocysts. Tsang; Victor C. W., et al. 435/7.22; 435/7.7 435/7.92 436/536 436/541. G01N033/53 G01N033/569 G01N033/543 G01N033/536.

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Terms	Documents
97/08204	1

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FILE 'HOME' ENTERED AT 19:20:21 ON 24 MAR 2003

=> FIL BIOSIS,CABA,CAPLUS,EMBASE,LIFESCI,MEDLINE,SCISEARCH,USPATFULL,JAPIO
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CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'JAPIO' ENTERED AT 19:20:29 ON 24 MAR 2003
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=> s crytosporidium
L1          133 CRYTOSPORIDIUM

=> s l1 and oocysts
L2           62 L1 AND OOCYSTS

=> s l2 and IgG1
L3            1 L2 AND IGG1

=> d l3 ibib abs

L3   ANSWER 1 OF 1  USPATFULL
ACCESSION NUMBER:        97:56538  USPATFULL
TITLE:                   Cryptosporidium hybrid vector and transformed host
                         cells
INVENTOR(S):             Petersen, Carolyn, Berkeley, CA, United States
                         Leech, James, Daly City, CA, United States
                         Nelson, Richard C., San Francisco, CA, United States
                         Gut, Jiri, Novato, CA, United States
PATENT ASSIGNEE(S):      The Regents of the University of California, Oakland,
                         CA, United States (U.S. corporation)

                              NUMBER       KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 5643772               19970701
APPLICATION INFO.:       US 1995-415751           19950403  (8)
RELATED APPLN. INFO.:    Continuation of Ser. No. US 1993-71880, filed on 1 Jun
                         1993, now abandoned which is a continuation-in-part of
                         Ser. No. US 1992-891301, filed on 29 May 1992, now
```

abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Portner, Ginny Allen
LEGAL REPRESENTATIVE: Verny, Hana
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 2279
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention comprises a Cryptosporidium hybrid vector comprising a regulatory DNA segment operably coupled to a DNA fragment encoding a polypeptide to which anti-Cryptosporidium antibodies specifically bind and transformed host cells comprising the hybrid vectors.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s s l2 and igg
MISSING OPERATOR S L2
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s l2 and igg
L4 4 L2 AND IGG

=> d l4 1-4 ibib abs

L4 ANSWER 1 OF 4 LIFESCI COPYRIGHT 2003 CSA
ACCESSION NUMBER: 88:549 LIFESCI
TITLE: Lacteal immunity to enteric cryptosporidiosis in mice: Immune dams do not protect their suckling pups.
AUTHOR: Moon, H.W.; Woodmansee, D.B.; Harp, J.A.; Abel, S.; Ungar, B.L.P.
CORPORATE SOURCE: Natl. Anim. Dis. Cent., Agric. Res. Serv., U.S. Dep. Agric., Ames, IA 50010, USA
SOURCE: INFECT. IMMUN., (1988) vol. 56, no. 3, pp. 649-653.
DOCUMENT TYPE: Journal
FILE SEGMENT: K; F
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The susceptibilities of passively immunized principal and nonimmunized control suckling mice to orgogastric challenge with Cryptosporidium parvum **oocysts** were compared. Principals were suckled by dams that had recovered from C. parvum infection. Controls were suckled by dams reared free of C. parvum infection. Principals and controls were equally susceptible to challenge. Principals were susceptible even when their dams were hyperimmunized by oral and parenteral booster inoculations with C. parvum **oocysts**. Immune dams produced serum antibody against C. parvum , while nonimmune dams did not. Anti-cryptosporidia immunoglobulin G (**IgG**) and IgA were demonstrated in whey extracted from the stomachs of principals that had suckled immune dams but not in whey extracted from the stomachs of controls. It was concluded that passive lacteal immunity is not an efficient means of protection against cryptosporidiosis in mice. As in other coccidian infections, protective immunity against cryptosporidiosis may depend more on immune cells than on antibody.

L4 ANSWER 2 OF 4 USPATFULL
ACCESSION NUMBER: 2003:33298 USPATFULL
TITLE: Methods for detection of **Crytosporidium** species and isolates and for diagnosis of Cryptosporidium infections
INVENTOR(S): Petersen, Carolyn, San Diego, CA, United States
Barnes, Debra A., Oakland, CA, United States

Nelson, Richard C., Sausalito, CA, United States
Gut, Jiri, Novato, CA, United States
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6514697	B1	20030204
APPLICATION INFO.:	US 2000-588995		20000606 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-827171, filed on 27 Mar 1997, now patented, Pat. No. US 6254869 Continuation-in-part of Ser. No. US 1997-928361, filed on 12 Sep 1997, now patented, Pat. No. US 6071518 Continuation-in-part of Ser. No. US 1996-700651, filed on 14 Aug 1996, now patented, Pat. No. US 6015882 Continuation-in-part of Ser. No. US 1995-415751, filed on 3 Apr 1995, now patented, Pat. No. US 5643772 Continuation of Ser. No. US 1993-71880, filed on 1 Jun 1993, now abandoned Continuation-in-part of Ser. No. US 1992-891301, filed on 29 May 1992, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-26062P	19960913 (60)
	US 1996-14233P	19960327 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Whisenant, Ethan C.
LEGAL REPRESENTATIVE: Verny, Hana
NUMBER OF CLAIMS: 34
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT: 4181
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Cryptosporidium GP900, P68 and cryptopain antigens, antibodies, DNA or RNA for detection of Cryptosporidium in biological and environmental samples. A method for diagnosis of cryptosporidiosis. Kits and assays for the detection of Cryptosporidium comprising antigens, antibody, DNA or RNA components for immunological detection of Cryptosporidium protein with antibody, or detection of Cryptosporidium DNA by PCR amplification with GP900, P68 or cryptopain primers and probes for hybridization.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 3 OF 4 USPATFULL
ACCESSION NUMBER: 1999:40171 USPATFULL
TITLE: Methods and articles of manufacture for the detection of cryptosporidium occysts
INVENTOR(S): Crabb, Joseph H., Newfield, ME, United States
Turner, Nathan, Newmarket, NH, United States
PATENT ASSIGNEE(S): ImmuCell Corporation, Portland, ME, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5888748		19990330
APPLICATION INFO.:	US 1995-502328		19950713 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Portmer, Ginny Allen
LEGAL REPRESENTATIVE: Farrell, Kevin M.
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 785

AB Embodiments of the present invention relate to methods and articles of manufacture for the detection of Giardia cysts and **Crytosporidium oocysts**.

L4 ANSWER 4 OF 4 USPATFULL

ACCESSION NUMBER:	97:56538 USPATFULL
TITLE:	Cryptosporidium hybrid vector and transformed host cells
INVENTOR(S):	Petersen, Carolyn, Berkeley, CA, United States Leech, James, Daly City, CA, United States Nelson, Richard C., San Francisco, CA, United States Gut, Jiri, Novato, CA, United States
PATENT ASSIGNEE(S):	The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5643772		19970701
APPLICATION INFO.:	US 1995-415751		19950403 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1993-71880, filed on 1 Jun 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-891301, filed on 29 May 1992, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Housel, James C.		
ASSISTANT EXAMINER:	Portner, Ginny Allen		
LEGAL REPRESENTATIVE:	Verny, Hana		
NUMBER OF CLAIMS:	4		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	7 Drawing Figure(s); 4 Drawing Page(s)		
LINE COUNT:	2279		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention comprises a Cryptosporidium hybrid vector comprising a regulatory DNA segment operably coupled to a DNA fragment encoding a polypeptide to which anti-Cryptosporidium antibodies specifically bind and transformed host cells comprising the hybrid vectors.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH, USPATFULL, JAPIO' ENTERED AT 19:20:29 ON 24 MAR 2003

L1 133 S CRYTOSPORIDIUM
L2 62 S L1 AND OOCYSTS
L3 1 S L2 AND IGG1
L4 4 S L2 AND IGG

=> s l1 and antibod?
L5 38 L1 AND ANTIBOD?

=> d l5 1-38 ibib abs

L5 ANSWER 1 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER:	2003:129704 BIOSIS
DOCUMENT NUMBER:	PREV200300129704
TITLE:	Methods for detection of **Crytosporidium** species and isolates and for diagnosis of Cryptosporidium infections.
AUTHOR(S):	Petersen, Carolyn (1); Barnes, Debra A.; Nelson, Richard C.; Gut, Jiri

CORPORATE SOURCE: (1) San Diego, CA, USA USA
ASSIGNEE: The Regents of the University of California
PATENT INFORMATION: US 6514697 February 04, 2003
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Feb. 4 2003) Vol. 1267, No. 1, pp. No Pagination. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
AB Cryptosporidium GP900, P68 and cryptopain antigens, **antibodies**, DNA or RNA for detection of Cryptosporidium in biological and environmental samples. A method for diagnosis of cryptosporidiosis. Kits and assays for the detection of Cryptosporidium comprising antigens, **antibody**, DNA or RNA components for immunological detection of Cryptosporidium protein with **antibody**, or detection of Cryptosporidium DNA by PCR amplification with GP900, P68 or cryptopain primers and probes for hybridization.

L5 ANSWER 2 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:119129 BIOSIS
DOCUMENT NUMBER: PREV200200119129
TITLE: Occurrence of Cryptosporidium and Giardia in wild ducks along the Rio Grande River Valley in southern New Mexico.
AUTHOR(S): Kuhn, Ryan C.; Rock, Channah M.; Oshima, Kevin H. (1)
CORPORATE SOURCE: (1) Department of Biology, New Mexico State University, Dept. 3AF, Las Cruces, NM, 88003: koshima@nmsu.edu USA
SOURCE: Applied and Environmental Microbiology, (January, 2002) Vol. 68, No. 1, pp. 161-165. http://www.journals.asm.org. print.
ISSN: 0099-2240.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Fecal samples were taken from wild ducks on the lower Rio Grande River around Las Cruces, N. Mex., from September 2000 to January 2001. Giardia cysts and Cryptosporidium oocysts were purified from 69 samples by sucrose enrichment followed by cesium chloride (CsCl) gradient centrifugation and were viewed via fluorescent-**antibody** (FA) staining. For some samples, recovered cysts and oocysts were further screened via PCR to determine the presence of Giardia lamblia and **Crytosporidium** parvum. The results of this study indicate that 49% of the ducks were carriers of Cryptosporidium, and the Cryptosporidium oocyst concentrations ranged from 0 to 2,182 oocysts per g of feces (mean +- standard deviation, 47.53 +- 270.3 oocyts per g); also, 28% of the ducks were positive for Giardia, and the Giardia cyst concentrations ranged from 0 to 29,293 cysts per g of feces (mean +- standard deviation, 436 +- 3,525.4 cysts per g). Of the 69 samples, only 14 had (oo)cyst concentrations that were above the PCR detection limit. Samples did test positive for Cryptosporidium sp. However, C. parvum and G. lamblia were not detected in any of the 14 samples tested by PCR. Ducks on their southern migration through southern New Mexico were positive for Cryptosporidium and Giardia as determined by FA staining, but C. parvum and G. lamblia were not detected.

L5 ANSWER 3 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:482348 BIOSIS
DOCUMENT NUMBER: PREV199900482348
TITLE: CD40-CD40 ligand interactions augment survival of normal mice, but not CD40 ligand knockout mice, challenged orally with Salmonella dublin.
AUTHOR(S): Marriott, Ian; Thomas, Elaine K.; Bost, Kenneth L. (1)
CORPORATE SOURCE: (1) Department of Biology, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, NC, 28223 USA
SOURCE: Infection and Immunity, (Oct., 1999) Vol. 67, No. 10, pp. 5253-5257.
ISSN: 0019-9567.

DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Interactions between CD40 expressed on macrophages and CD40 ligand expressed on T lymphocytes can be an important signal for optimal macrophage activation. Previous studies have demonstrated that the optimal response against certain intracellular pathogens (e.g., **Crytosporidium** and Leishmania spp.) by macrophages requires CD40-CD40 ligand interactions. However, this finding is not universal, since two recent reports utilizing CD40 knockout mice have shown no such contribution to the protective immune response against Mycobacterium tuberculosis or Histoplasma capsulatum. We demonstrate here that CD40-CD40 ligand interactions are significant events in the protective response against the intracellular pathogen Salmonella dublin in normal mice but not for animals genetically deficient in CD40 ligand expression. Treating BALB/c mice exogenously with a CD40 agonist (i.e., soluble trimeric CD40 ligand) increased resistance against a lethal, orally administered dose of S. dublin. Conversely, in vivo administration of a monoclonal **antibody** against CD40 ligand to block endogenous CD40-CD40 ligand interactions resulted in a decreased resistance to salmonellosis. In contrast, CD40 ligand knockout mice demonstrated no increased susceptibility to salmonellosis. In vitro treatment of Salmonella-infected macrophages from BALB/c mice with soluble trimeric CD40 ligand resulted in an elevated production of interleukin 12p70 by these cells, suggesting a mechanism whereby CD40-CD40 ligand interactions might enhance protective immune responses to this pathogen. Taken together, these studies strongly suggest that CD40-CD40 ligand interactions in normal mice play an important protective role in immune responses against the gram-negative, intracellular pathogen S. dublin.

L5 ANSWER 4 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:139640 BIOSIS
DOCUMENT NUMBER: PREV199800139640
TITLE: Recovery of waterborne **Crytosporidium** parvum oocysts by freshwater benthic clams (Corbicula fluminea.
AUTHOR(S): Graczyk, Thaddeus K. (1); Fayer, Ronald; Cranfield, Michael R.; Conn, David Bruce
CORPORATE SOURCE: (1) Johns Hopkins Univ., Sch. Hygiene Public Health, Dep. Molecular Microbiol. Immunol., 615 N. Wolfe St., Baltimore, MD 21205 USA
SOURCE: Applied and Environmental Microbiology, (Feb., 1998) Vol. 64, No. 2, pp. 427-430.
ISSN: 0099-2240.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Asian freshwater clams, Corbicula fluminea, exposed for 24 h to 38 liters of water contaminated with infectious Cryptosporidium parvum oocysts (1.00 X 106 oocysts/liter; approximately 1.9 X 105 oocysts/clam) were examined (hemolymph, gills, gastrointestinal (GI) tract, and feces) on days 1, 2, 3, 7, and 14 postexposure (PE). No oocysts were detected in the water 24 h after the contamination event. The percentage of oocyst-containing clams varied from 20 to 100%, depending on the type of tissue examined and the technique used-acid-fast stain (AFS) or immunofluorescent **antibody** (IFA). The oocysts were found in clam tissues and feces on days 1 through 14 PE; the oocysts extracted from the tissues on day 7 PE were infectious for neonatal BALB/c mice. Overall, the highest number of positive samples was obtained when gills and GI tracts were processed with IFA (prevalence, 97.5%). A comparison of the relative oocyst numbers indicated that overall, 58.3% of the oocysts were found in clam tissues and 41.7% were found in feces when IFA was used; when AFS was used, the values were 51.9 and 48.1%, respectively. Clam-released oocysts were always surrounded by feces; no free oocysts or oocysts disassociated from fecal matter were observed. The results indicate that these benthic freshwater clams are capable of recovery and sedimentation of waterborne C. parvum oocysts. To optimize the detection of C. parvum oocysts in C. fluminea tissue, it is recommended that gill and GI tract samples be screened with IFA (such as

that in the commercially available MERIFLUOR test kit).

L5 ANSWER 5 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1997:111280 BIOSIS
DOCUMENT NUMBER: PREV199799410483
TITLE: Prevalence of Dientamoeba fragilis **antibodies** in children and recognition of a 39 kDa immunodominant protein antigen of the organism.
AUTHOR(S): Chan, F. (1); Stewart, N.; Guan, M.; Robb, I.; Fuite, L.; Chan, I.; Diaz-Mitoma, F.; King, J.; MacDonald, N.; MacKenzie, A.
CORPORATE SOURCE: (1) Dep. Lab. Med., Child. Hosp. East. Ont., Ottawa, ON K1H 8L1 Canada
SOURCE: European Journal of Clinical Microbiology & Infectious Diseases, (1996) Vol. 15, No. 12, pp. 950-954. ISSN: 0934-9723.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Dientamoeba fragilis, a common intestinal protozoan parasite in Canada, has been associated with diarrhoea and abdominal pain in some patients. Seroprevalence of this organism has not been reported previously. In the present study sera from three symptomatic patients, 12 age- and sex-matched controls, and 189 randomly selected healthy individuals (age 6 months to 19 years) were tested for **antibodies** against Dientamoeba fragilis by an indirect immunofluorescence (IIF) assay. All three symptomatic patients infected with Dientamoeba fragilis had positive IIF titres of 80, and all 12 matched controls had positive titres ranging 20 to 160 (geometric mean titre 48). Of the 189 healthy children, 172 (91%) were positive at a serum dilution of 1:10 or higher. The specificity of the IIF assay was reinforced by immunoblotting 20 representative serum samples against Dientamoeba fragilis. In all 17 IIF-positive serum samples, a 39 kDa protein band of Dientamoeba fragilis was identified, the same band recognized by a mouse monoclonal **antibody** raised in our laboratory. Findings over a five-year period indicate that Dientamoeba fragilis was the most common protozoan, followed closely by Giardia lamblia and more distantly by **Crytosporidium** parvum. The high seropositivity of 91% for Dientamoeba fragilis compares reasonably well with serologic data obtained by IIF and reported previously for Giardia lamblia (85.6%) and Cryptosporidium parvum (86%).

L5 ANSWER 6 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1991:5170 BIOSIS
DOCUMENT NUMBER: BA91:5170
TITLE: ENZYME-LINKED IMMUNOASSAY FOR DETECTION OF CRYPTOSPORIDIUM ANTIGENS IN FECAL SPECIMENS.
AUTHOR(S): UNGAR B L P
CORPORATE SOURCE: DEP. PREVENTIVE MEDICINE MEDICINE, UNIFORMED SERVICES UNIVERSITY HEALTH SCIENCES, BETHESDA, MD. 20814-4799.
SOURCE: J CLIN MICROBIOL, (1990) 28 (11), 2491-2495. CODEN: JCMIDW. ISSN: 0095-1137.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB **Crytosporidium** sp. is a ubiquitous 4- to 6-.mu.m protozoan parasite infecting the intestinal tract of humans. It causes mild to fulminant diarrhea in patients, especially immunocompromised persons, and it may be hard to detect by microscopic fecal examination. An indirect, double-**antibody** enzyme-linked immunosorbent assay (ELISA) was developed using specifically produced goat and rabbit antisera to detect Cryptosporidium antigens in human feces. Of 62 frozen stools from patients with cryptosporidosis, as detected by at least two microscopic diagnostic techniques, 51 were positive by ELISA; all ELISA-negative specimens came from patients with fewer than five oocysts per 0.01 ml of concentrated fecal sample examined after modified acid-fast or fluorescent monoclonal **antibody** staining. A total of 182 specimens from persons without Cryptosporidium infection were negative by ELISA in 176 instances; 3 ELISA-positive specimens came from patients with cryptosporidosis

diagnosed earlier. The sensitivity of the assay was 82.3%, and specificity was 96.7%. The predictive value of a positive ELISA was 89.5%, and the predictive vlaue of a negative ELISA was 94.2%. The ELISA was not affected by the presence of eight other intestinal parasites but was sometimes affected by repreated freezing and thawing of fecal specimens. All fecal specimens were heated to 100.degree. C for 2 min to reduce proteolytic enzyme activity, although the necessity of this step needs further evaluation. This first-generation ELISA is a simple, rapid, easily standardized test for Cryptosporidium antigens in stool samples which will be useful for diagnosis and for large-scale epidemiologic studies.

L5 ANSWER 7 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1985:363933 BIOSIS
DOCUMENT NUMBER: BA80:33925
TITLE: CRYPTOSPORIDIOSIS IN HOSPITAL PERSONNEL EVIDENCE FOR PERSON-TO-PERSON TRANSMISSION.
AUTHOR(S): KOCH K L; PHILLIPS D J; ABER R C; CURRENT W L
CORPORATE SOURCE: MILTON S. HERSHEY MED. CENT., PA. STATE UNIV., P.O. BOX 850, HERSHEY, PA. 17033.
SOURCE: ANN INTERN MED, (1985) 102 (5), 593-596.
CODEN: AIMEAS. ISSN: 0003-4819.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB An intern responsible for the care of a patient with chronic cryptosporidiosis developed acute diarrhea and serologic evidence of cryptosporidium infection. Sera from 26 hospital personnel exposed to the patient and 18 personnel with no exposure were examined with an indirect immunofluorescent **antibody** procedure for the presence of **antibodies** to Cryptosporidium. Eight (31%) exposed personnel (5 nurses, 2 house officers, and 1 student) had positive **antibody** titers (1:10 or more). The frequency of positivity in the nurse-housestaff-student group (8 of 18, 45%) was significantly greater ($P < 0.05$) than that in the attending physicians and respiratory therapists (0 of 8). The former group had significantly more exposure to the patient's feces than did the latter group ($P < 0.01$). Three of 18 control personnel (17%) had positive cryptosporidium **antibody** titers. **Crytosporidium** may be transmitted from person to person in the hospital environment, and serologic evidence of infection is common among hospital personnel.

L5 ANSWER 8 OF 38 CABA COPYRIGHT 2003 CABI
ACCESSION NUMBER: 2001:96659 CABA
DOCUMENT NUMBER: 20013092796
TITLE: Cryptosporidium sp. in newborn calves in a farm of the Rosario de Perija county, Zulia State, Venezuela
Cryptosporidium sp. en becerros neonatos de una finca del Municipio Rosario de Perija, Estado Zulia, Venezuela
AUTHOR: Valera, Z.; Quintero, W.; Villarroel, R.; Hernandez, E.
CORPORATE SOURCE: Facultad de Ciencias Veterinarias, Universidad del Zulia, Apartado 15252, Maracaibo 4005-A, Estado Zulia, Venezuela.
SOURCE: Revista Cientifica, Facultad de Ciencias Veterinarias, Universidad del Zulia, (2001) Vol. 11, No. 3, pp. 213-218. 30 ref.
ISSN: 0798-2259
DOCUMENT TYPE: Journal
LANGUAGE: Spanish
SUMMARY LANGUAGE: English
AB This survey was conducted to establish the presence of **Crytosporidium** sp. and its association with diarrhoea in newborn calves in a commercial farm in Zulia, Venezuela. Fecal samples were collected directly from the rectum of 57 individually housed calves (2-27-days-old). Cryptosporidium sp. oocysts in fecal smears were identified by using a modified Kinyoun technique and subsequently examined

under the light microscope. All oocyst-positive samples were further stained with monoclonal **antibodies** labelled with fluorescein isothiocyanate (FITC-Mabs) and examined by epifluorescence microscopy to confirm the presence of Cryptosporidium. 29 (50.8%) of the samples were Cryptosporidium positive and the occurrence in newborn calves was associated with the age of the animals ($P<0.05$). Only 6 (20.6%) of the calves had diarrhoea and no association was found between illness and Cryptosporidium occurrence. The results revealed that a high percentage of the calves were infected with Cryptosporidium, however, the presence of the parasite was not responsible for the development of diarrhoea.

L5 ANSWER 9 OF 38 CABA COPYRIGHT 2003 CABI
ACCESSION NUMBER: 87:15883 CABA
DOCUMENT NUMBER: 872291272
TITLE: Prevalence of various enteropathogens in the feces of diarrheic and healthy calves
AUTHOR: Rycke, J. de; Bernard, S.; Laporte, J.; Naciri, M.; Popoff, M. R.; Rodolakis, A.; De Rycke, J.
CORPORATE SOURCE: INRA Sta. Path. Reprod., Nouzilly, 37380 Monnaie, France.
SOURCE: Annales de Recherches Veterinaires, (1986) Vol. 17, No. 2, pp. 159-168.
DOCUMENT TYPE: Journal
LANGUAGE: English
SUMMARY LANGUAGE: French
AB The faeces of dairy calves reared in a restricted geographical area of France (north-western Indre-et-Loire) were examined for the presence of various enteropathogens during the winter 1983-1984. Two surveys were carried out: a case-control study including 32 diarrhoeic calves and 21 healthy calves on 53 different farms, and a separate study on nine diarrhoeic calves on another farm. Specific methods were used to detect: Escherichia coli K99 and E. coli lethal for mice, Salmonella species, Yersinia enterocolitica, Campylobacter jejuni, enterotoxigenic Clostridium perfringens, Chlamydia psittaci, rotaviruses, coronaviruses, Cryptosporidium. In the case-control survey, no enterotoxigenic E. coli (K99+) was detected in either group of calves. Four agents were more often detected in diarrhoeic calves than in healthy calves: rotavirus (12/32 vs 1/21), lethal E. coli (6/32 vs 1/21), Cryptosporidium (2/32 vs 0/21) and Salmonella typhimurium (1/32 vs 0/21). One at least of these four agents was present in 16 diarrhoeic calves (50%) but in only 2 healthy calves (10%). Campylobacter jejuni and C. perfringens enterotoxins were found in about 20% and 10% of all calves, respectively. Coronavirus-like particles were significantly associated with healthy calves (7/32 vs 11/21). In the other study, all the main categories of enteropathogens were detected on the same farm throughout the period of observation, with the exception of enterotoxigenic E. coli each calf taken individually was rarely shedding more than two agents at a time. In addition, specific **antibodies** against C. perfringens enterotoxin, as determined by ELISA, were present in the serum of all the calves examined in both surveys. This study confirms the primary role of rotavirus and **Crytosporidium** as agents of diarrhoea in calves under three weeks of age. It also suggests the possible participation of E. coli strains that are lethal for mice and underlines the potential hazard for human health of bovine reservoirs of Campylobacter jejuni and enterotoxigenic C. perfringens.

L5 ANSWER 10 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:32137 CAPLUS
TITLE: Occurrence of Cryptosporidium and Giardia in wild ducks along the rio grande river valley in southern New Mexico
AUTHOR(S): Kuhn, Ryan C.; Rock, Channah M.; Oshima, Kevin H.
CORPORATE SOURCE: Department of Biology, New Mexico State University, Las Cruces, NM, 88003, USA
SOURCE: Applied and Environmental Microbiology (2002), 68(1), 161-165
CODEN: AEMIDF; ISSN: 0099-2240

PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Fecal samples were taken from wild ducks on the lower Rio Grande River around Las Cruces, N. Mex., from Sept. 2000 to Jan. 2001. Giardia cysts and Cryptosporidium oocysts were purified from 69 samples by sucrose enrichment followed by cesium chloride (CsCl) gradient centrifugation and were viewed via fluorescent-**antibody** (FA) staining. For some samples, recovered cysts and oocysts were further screened via PCR to det. the presence of Giardia lamblia and **Crytosporidium** parvum. The results of this study indicate that 49% of the ducks were carriers of Cryptosporidium, and the Cryptosporidium oocyst concns. ranged from 0 to 2,182 oocysts per g of feces (mean std. deviation, 47.53 270.3 oocysts per g); also, 28% of the ducks were pos. for Giardia, and the Giardia cyst concns. ranged from 0 to 29,293 cysts per g of feces (mean std. deviation, 436 3,525.4 cysts per g). Of the 69 samples, only 14 had (oo)cyst concns. that were above the PCR detection limit. Samples did test pos. for Cryptosporidium sp. However, C. parvum and G. lamblia were not detected in any of the 14 samples tested by PCR. Ducks on their southern migration through southern New Mexico were pos. for Cryptosporidium and Giardia as detd. by FA staining, but C. parvum and G. lamblia were not detected.
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:651487 CAPLUS
DOCUMENT NUMBER: 131:335736
TITLE: CD40-CD40 ligand interactions augment survival of normal mice, but not CD40 ligand knockout mice, challenged orally with Salmonella dublin
AUTHOR(S): Marriott, Ian; Thomas, Elaine K.; Bost, Kenneth L.
CORPORATE SOURCE: Department of Biology, University of North Carolina at Charlotte, Charlotte, NC, 28223, USA
SOURCE: Infection and Immunity (1999), 67(10), 5253-5257
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Interactions between CD40 expressed on macrophages and CD40 ligand expressed on T lymphocytes can be an important signal for optimal macrophage activation. Previous studies have demonstrated that the optimal response against certain intracellular pathogens (e.g., **Crytosporidium** and Leishmania spp.) by macrophages requires CD40-CD40 ligand interactions. However, this finding is not universal, since two recent reports utilizing CD40 knockout mice have shown no such contribution to the protective immune response against Mycobacterium tuberculosis or Histoplasma capsulatum. We demonstrate here that CD40-CD40 ligand interactions are significant events in the protective response against the intracellular pathogen Salmonella dublin in normal mice but not for animals genetically deficient in CD40 ligand expression. Treating BALB/c mice exogenously with a CD40 agonist (i.e., sol. trimeric CD40 ligand) increased resistance against a lethal, orally administered dose of S. dublin. Conversely, in vivo administration of a monoclonal **antibody** against CD40 ligand to block endogenous CD40-CD40 ligand interactions resulted in a decreased resistance to salmonellosis. In contrast, CD40 ligand knockout mice demonstrated no increased susceptibility to salmonellosis. In vitro treatment of Salmonella-infected macrophages from BALB/c mice with sol. trimeric CD40 ligand resulted in an elevated prodn. of interleukin-12p70 by these cells, suggesting a mechanism whereby CD40-CD40 ligand interactions might enhance protective immune responses to this pathogen. Taken together, these studies strongly suggest that CD40-CD40 ligand interactions in normal mice play an important protective role in immune responses against the gram-neg., intracellular pathogen S. dublin.
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS

L5 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:315585 CAPLUS
DOCUMENT NUMBER: 127:13850
TITLE: An assay combining cell culture with reverse transcriptase PCR to detect and determine the infectivity of waterborne Cryptosporidium parvum
AUTHOR(S): Rochelle, Paul A.; Ferguson, Donna M.; Handojo, Troy J.; De Leon, Ricardo; Stewart, Mic H.; Wolfe, Roy L.
CORPORATE SOURCE: Water Quality Laboratory, Metropolitan Water District Southern California, La Verne, CA, 91750-3399, USA
SOURCE: Applied and Environmental Microbiology (1997), 63(5), 2029-2037
CODEN: AEMIDF; ISSN: 0099-2240
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The presence of Cryptosporidium in drinking water supplies is a significant problem faced by the water industry. Although a variety of methods exist for the detection of waterborne oocysts, water utilities currently have no way of assessing the infectivity of detected oocysts and consequently are unable to accurately det. the risks posed to public health by waterborne Cryptosporidium. In this paper, the development of an infectivity assay for waterborne Cryptosporidium parvum is described. Oocysts were inoculated onto monolayers of Caco-2 cells and grown in microscope slides, and infections were detected by C. parvum specific reverse transcriptase PCR of extd. mRNA, targeting the heat shock protein 70 (hsp70) gene. A single infectious oocyst was detected by this exptl. procedure. The use of concd. samples obtained from 250 L of finished water had no observable effect on the integrity of cell monolayers or on the infectivity of oocysts seeded into the conc. Intracellular developmental stages of the parasite were also detected by using fluorescently labeled **antibodies**. One pair of PCR primers targeting the hsp70 gene was specific for C. parvum, while a second pair recognized all species of Cryptosporidium tested. The C. parvum-specific primers amplified DNA from 1 to 10 oocysts used to seed 65 to 100 L of concd. environmental water samples and were compatible with multiplex PCR for the simultaneous detection of C. parvum and Giardia lamblia. This paper confirms the utility of PCR for the detection of waterborne C. parvum and, most importantly, demonstrates the potential of an in vitro infectivity assay.

L5 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:526652 CAPLUS
DOCUMENT NUMBER: 117:126652
TITLE: Characterization of a Cryptosporidium parvum sporozoite glycoprotein
AUTHOR(S): Petersen, Carolyn; Gut, Jiri; Nelson, Richard G.; Leech, James H.
CORPORATE SOURCE: Dep. Med., San Francisco Gen. Hosp., San Francisco, CA, 94110, USA
SOURCE: Journal of Protozoology (1991), 38(6), 20S-21S
CODEN: JPROAR; ISSN: 0022-3921
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polyclonal and monoclonal **antibodies** directed against Cryptosporidium oocysts or sporozoites were developed to identify and characterize sporozoite pellicle and apical complex antigens. A very large glycoprotein of **Crytosporidium** sporozoites was identified by 3 monoclonal **antibodies** that also reacted with intracellular merozoites. The glycoprotein was also identified by polyclonal **antibodies** that were affinity-purified on nitrocellulose-bound recombinant proteins expressed by 4 .lambda.gtl genomic clones.

L5 ANSWER 14 OF 38 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2002013035 EMBASE
TITLE: Occurrence of Cryptosporidium and Giardia in wild ducks along the Rio Grande River valley in Southern New Mexico.
AUTHOR: Kuhn R.C.; Rock C.M.; Oshima K.H.
CORPORATE SOURCE: K.H. Oshima, Department of Biology, New Mexico State University, P.O. Box 30001, Las Cruces, NM 88003, United States. koshima@nmsu.edu
SOURCE: Applied and Environmental Microbiology, (2002) 68/1 (161-165).
Refs: 39
ISSN: 0099-2240 CODEN: AEMIDF
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Fecal samples were taken from wild ducks on the lower Rio Grande River around Las Cruces, N. Mex., from September 2000 to January 2001. Giardia cysts and Cryptosporidium oocysts were purified from 69 samples by sucrose enrichment followed by cesium chloride (CsCl) gradient centrifugation and were viewed via fluorescent-**antibody** (FA) staining. For some samples, recovered cysts and oocysts were further screened via PCR to determine the presence of Giardia lamblia and **Crytosporidium** parvum. The results of this study indicate that 49% of the ducks were carriers of Cryptosporidium, and the Cryptosporidium oocyst concentrations ranged from 0 to 2,182 oocysts per g of feces (mean .+-. standard deviation, 47.53 .+-. 270.3 oocysts per g); also, 28% of the ducks were positive for Giardia, and the Giardia cyst concentrations ranged from 0 to 29,293 cysts per g of feces (mean .+-. standard deviation, 436 .+-. 3,525.4 cysts per g). Of the 69 samples, only 14 had (oo)cyst concentrations that were above the PCR detection limit. Samples did test positive for Cryptosporidium sp. However, C. parvum and G. lamblia were not detected in any of the 14 samples tested by PCR. Ducks on their southern migration through southern New Mexico were positive for Cryptosporidium and Giardia as determined by FA staining, but C. parvum and G. lamblia were not detected.

L5 ANSWER 15 OF 38 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 1999338048 EMBASE
TITLE: CD40-CD40 ligand interactions augment survival of normal mice, but not CD40 ligand knockout mice, challenged orally with Salmonella dublin.
AUTHOR: Marriott I.; Thomas E.K.; Bost K.L.
CORPORATE SOURCE: K.L. Bost, Department of Biology, University of North Carolina, 9201 University City Blvd., Charlotte, NC 28223, United States. klbost@email.uncc.edu
SOURCE: Infection and Immunity, (1999) 67/10 (5253-5257).
Refs: 33
ISSN: 0019-9567 CODEN: INFIBR
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 026 Immunology, Serology and Transplantation
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Interactions between CD40 expressed on macrophages and CD40 ligand expressed on T lymphocytes can be an important signal for optimal macrophage activation. Previous studies have demonstrated that the optimal response against certain intracellular pathogens (e.g., **Crytosporidium** and Leishmania spp.) by macrophages requires CD40-CD40 ligand interactions. However, this finding is not universal, since two recent reports utilizing CD40 knockout mice have shown no such contribution to the protective immune response against Mycobacterium tuberculosis or Histoplasma capsulatum. We demonstrate here that CD40-CD40 ligand interactions are significant events in the protective response against the intracellular pathogen Salmonella dublin in normal mice but not for animals genetically deficient in CD40 ligand expression. Treating

BALB/c mice exogenously with a CD40 agonist (i.e., soluble trimeric CD40 ligand) increased resistance against a lethal, orally administered dose of S. dublin. Conversely, in vivo administration of a monoclonal **antibody** against CD40 ligand to block endogenous CD40-CD40 ligand interactions resulted in a decreased resistance to saimoneilosis. In contrast, CD40 ligand knockout mice demonstrated no increased susceptibility to salmoneilosis. In vitro treatment of Salmonella-infected macrophages from BALB/c mice with soluble trimeric CD40 ligand resulted in an elevated production of interleukin 12p70 by these cells, suggesting a mechanism whereby CD40-CD40 ligand interactions might enhance protective immune responses to this pathogen. Taken together, these studies strongly suggest that CD40-CD40 ligand interactions in normal mice play an important protective role in immune responses against the gram-negative, intracellular pathogen S. dublin.

L5 ANSWER 16 OF 38 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 91126176 EMBASE
DOCUMENT NUMBER: 1991126176
TITLE: Cryptosporidium infection in acquired immunodeficiency syndrome: Not always a poor prognosis.
AUTHOR: Saltzberg D.M.; Kotloff K.L.; Newman J.L.; Fastiggi R.
CORPORATE SOURCE: 660 Kenilworth Drive,Baltimore, MD 21204, United States
SOURCE: Journal of Clinical Gastroenterology, (1991) 13/1 (94-97). ISSN: 0192-0790 CODEN: JCGADC
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
047 Virology
048 Gastroenterology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Chronic diarrhea and malabsorption accompanied by simultaneous infection with the protozoa Giardia lamblia and Cryptosporidium occurred in a 22-year-old homosexual man with **antibody** to human immunodeficiency virus (HIV). Small bowel biopsy demonstrated total villous atrophy and marked mononuclear infiltration in the lamina propria simulating celiac disease. Treatment with metronidazole resulted in resolution of diarrhea, clearance of parasites, and marked improvement in small bowel histology. Although diarrhea and malabsorption in immunocompromised patients with cryptosporidiosis are regarded as ominous, our patient reamined disease free for the next 3 years. Thus, infection with **Crytosporidium** in patients with HIV does not always lead to intractable diarrhea or death.

L5 ANSWER 17 OF 38 LIFESCI COPYRIGHT 2003 CSA
ACCESSION NUMBER: 2002:42568 LIFESCI
TITLE: Occurrence of Cryptosporidium and Giardia in Wild Ducks Along the Rio Grande River Valley in Southern New Mexico
AUTHOR: Kuhn, R.C.; Rock, C.M.; Oshima, K.H.*
CORPORATE SOURCE: Department of Biology, New Mexico State University, Dept. 3AF, P.O. Box 30001, Las Cruces, NM 88003.; E-mail: koshima@nmsu.edu
SOURCE: Applied and Environmental Microbiology [Appl. Environ. Microbiol.], (20020100) vol. 68, no. 1, pp. 161-165. ISSN: 0099-2240.
DOCUMENT TYPE: Journal
FILE SEGMENT: K; D
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Fecal samples were taken from wild ducks on the lower Rio Grande River around Las Cruces, N. Mex., from September 2000 to January 2001. Giardia cysts and Cryptosporidium oocysts were purified from 69 samples by sucrose enrichment followed by cesium chloride (CsCl) gradient centrifugation and were viewed via fluorescent-**antibody** (FA) staining. For some samples, recovered cysts and oocysts were further screened via PCR to determine the presence of Giardia lamblia and **Crytosporidium**

parvum. The results of this study indicate that 49% of the ducks were carriers of Cryptosporidium, and the Cryptosporidium oocyst concentrations ranged from 0 to 2,182 oocysts per g of feces (mean plus or minus standard deviation, 47.53 plus or minus 270.3 oocysts per g); also, 28% of the ducks were positive for Giardia, and the Giardia cyst concentrations ranged from 0 to 29,293 cysts per g of feces (mean plus or minus standard deviation, 436 plus or minus 3,525.4 cysts per g). Of the 69 samples, only 14 had (oo)cyst concentrations that were above the PCR detection limit. Samples did test positive for Cryptosporidium sp. However, C. parvum and G. lamblia were not detected in any of the 14 samples tested by PCR. Ducks on their southern migration through southern New Mexico were positive for Cryptosporidium and Giardia as determined by FA staining, but C. parvum and G. lamblia were not detected.

L5 ANSWER 18 OF 38 LIFESCI COPYRIGHT 2003 CSA
ACCESSION NUMBER: 1999:112995 LIFESCI
TITLE: CD40-CD40 ligand interactions augment survival of normal mice, but not CD40 ligand knockout mice, challenged orally with Salmonella dublin
AUTHOR: Marriott, I.; Thomas, E.K.; Bost, K.L.*
CORPORATE SOURCE: Department of Biology, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, NC 28223, USA; E-mail: klbost@email.uncc.edu
SOURCE: Infection and Immunity [Infect. Immun.], (19991000) vol. 67, no. 10, pp. 5253-5257.
ISSN: 0019-9567.
DOCUMENT TYPE: Journal
FILE SEGMENT: J
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Interactions between CD40 expressed on macrophages and CD40 ligand expressed on T lymphocytes can be an important signal for optimal macrophage activation. Previous studies have demonstrated that the optimal response against certain intracellular pathogens (e.g., **Crytosporidium** and Leishmania spp.) by macrophages requires CD40-CD40 ligand interactions. However, this finding is not universal, since two recent reports utilizing CD40 knockout mice have shown no such contribution to the protective immune response against Mycobacterium tuberculosis or Histoplasma capsulatum. We demonstrate here that CD40-CD40 ligand interactions are significant events in the protective response against the intracellular pathogen Salmonella dublin in normal mice but not for animals genetically deficient in CD40 ligand expression. Treating BALB/c mice exogenously with a CD40 agonist (i.e., soluble trimeric CD40 ligand) increased resistance against a lethal, orally administered dose of S. dublin. Conversely, in vivo administration of a monoclonal **antibody** against CD40 ligand to block endogenous CD40-CD40 ligand interactions resulted in a decreased resistance to salmonellosis. In contrast, CD40 ligand knockout mice demonstrated no increased susceptibility to salmonellosis. In vitro treatment of Salmonella-infected macrophages from BALB/c mice with soluble trimeric CD40 ligand resulted in an elevated production of interleukin 12p70 by these cells, suggesting a mechanism whereby CD40-CD40 ligand interactions might enhance protective immune responses to this pathogen. Taken together, these studies strongly suggest that CD40-CD40 ligand interactions in normal mice play an important protective role in immune responses against the gram-negative, intracellular pathogen S. dublin.

L5 ANSWER 19 OF 38 LIFESCI COPYRIGHT 2003 CSA
ACCESSION NUMBER: 97:73211 LIFESCI
TITLE: Diagnosis of subclinical cryptosporidiosis in captive snakes based on stomach lavage and cloacal sampling
AUTHOR: Graczyk, T.K.; Owens, R.; Cranfield, M.R.
CORPORATE SOURCE: Johns Hopkins Univ., Sch. Hyg. and Public Health, Dep. Mol. Microbiol. and Immun., 615 North Wolfe St., Baltimore, MD 21205, USA
SOURCE: VET. PARASITOL., (1996) vol. 67, no. 3-4, pp. 143-151.

ISSN: 0304-4017.
DOCUMENT TYPE: Journal
FILE SEGMENT: K
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The applicability of stomach lavage and cloacal swab techniques for diagnosis of subclinical cryptosporidiosis were tested in eight captive snakes subclinically infected with **Crytosporidium** serpentis. Two feeding regimes were employed. The snakes were first fed 7 days prior to stomach and cloaca sampling, and then 3 days prior to sampling, and the oocysts were detected by fluorescein labeled monoclonal **antibody** (mAb) and by acid-fast stained (AFS) direct wet smear (DWS). The overall sensitivity of AFS DWS was 95% for stomach samples and 57% for cloacal samples, with false-negativity of 5% and 43%, respectively. A significant relationship ($P < 0.01$) was found between stomach and cloacal samples when mAb were used for oocyst detection. Stomach sampling was diagnostically superior to cloacal sampling for identifying snake subclinical cryptosporidiosis. Based on gastric aspirates, cryptosporidial infection was diagnosed in all eight animals, and only in two or four snakes when cloacal swab material was processed by AFS or by mAb, respectively. Feeding snakes 3 days prior to sampling facilitated diagnosis based on stomach samples; however, it did not improve diagnosis when cloacal samples were used. The fraction of oocyst-positive stomach samples was significantly higher ($P < 0.05$) for snakes fed 3 days prior to gastric lavage when compared with the fraction of positive samples of snakes fed 7 days prior to lavage. If subclinical cryptosporidiosis is suspected in a non-eating snake patient, force-feeding and stomach lavage, 3 days after the meal, is recommended.

L5 ANSWER 20 OF 38 LIFESCI COPYRIGHT 2003 CSA
ACCESSION NUMBER: 88:549 LIFESCI
TITLE: Lacteal immunity to enteric cryptosporidiosis in mice: Immune dams do not protect their suckling pups.
AUTHOR: Moon, H.W.; Woodmansee, D.B.; Harp, J.A.; Abel, S.; Ungar, B.L.P.
CORPORATE SOURCE: Natl. Anim. Dis. Cent., Agric. Res. Serv., U.S. Dep. Agric., Ames, IA 50010, USA
SOURCE: INFECT. IMMUN., (1988) vol. 56, no. 3, pp. 649-653.
DOCUMENT TYPE: Journal
FILE SEGMENT: K; F
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The susceptibilities of passively immunized principal and nonimmunized control suckling mice to orgogastric challenge with Cryptosporidium parvum oocysts were compared. Principals were suckled by dams that had recovered from C. parvum infection. Controls were suckled by dams reared free of C. parvum infection. Principals and controls were equally susceptible to challenge. Principals were susceptible even when their dams were hyperimmunized by oral and parenteral booster inoculations with C. parvum oocysts. Immune dams produced serum **antibody** against C. parvum , while nonimmune dams did not. Anti-cryptosporidia immunoglobulin G (IgG) and IgA were demonstrated in whey extracted from the stomachs of principals that had suckled immune dams but not in whey extracted from the stomachs of controls. It was concluded that passive lacteal immunity is not an efficient means of protection against cryptosporidiosis in mice. As in other coccidian infections, protective immunity against cryptosporidiosis may depend more on immune cells than on **antibody** .

L5 ANSWER 21 OF 38 MEDLINE
ACCESSION NUMBER: 2002050393 MEDLINE
DOCUMENT NUMBER: 21633811 PubMed ID: 11772622
TITLE: Occurrence of Cryptosporidium and Giardia in wild ducks along the Rio Grande River valley in southern New Mexico.
AUTHOR: Kuhn Ryan C; Rock Channah M; Oshima Kevin H
CORPORATE SOURCE: Department of Biology, New Mexico State University, Las

Cruces, New Mexico 88003, USA.
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (2002 Jan) 68 (1) 161-5.
Journal code: 7605801. ISSN: 0099-2240.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200205
ENTRY DATE: Entered STN: 20020125
Last Updated on STN: 20020515
Entered Medline: 20020514

AB Fecal samples were taken from wild ducks on the lower Rio Grande River around Las Cruces, N. Mex., from September 2000 to January 2001. Giardia cysts and Cryptosporidium oocysts were purified from 69 samples by sucrose enrichment followed by cesium chloride (CsCl) gradient centrifugation and were viewed via fluorescent-**antibody** (FA) staining. For some samples, recovered cysts and oocysts were further screened via PCR to determine the presence of Giardia lamblia and **Crytosporidium** parvum. The results of this study indicate that 49% of the ducks were carriers of Cryptosporidium, and the Cryptosporidium oocyst concentrations ranged from 0 to 2,182 oocysts per g of feces (mean +/- standard deviation, 47.53 +/- 270.3 oocysts per g); also, 28% of the ducks were positive for Giardia, and the Giardia cyst concentrations ranged from 0 to 29,293 cysts per g of feces (mean +/- standard deviation, 436 +/- 3,525.4 cysts per g). Of the 69 samples, only 14 had (oo)cyst concentrations that were above the PCR detection limit. Samples did test positive for Cryptosporidium sp. However, C. parvum and G. lamblia were not detected in any of the 14 samples tested by PCR. Ducks on their southern migration through southern New Mexico were positive for Cryptosporidium and Giardia as determined by FA staining, but C. parvum and G. lamblia were not detected.

L5 ANSWER 22 OF 38 MEDLINE
ACCESSION NUMBER: 1999426821 MEDLINE
DOCUMENT NUMBER: 99426821 PubMed ID: 10496903
TITLE: CD40-CD40 ligand interactions augment survival of normal mice, but not CD40 ligand knockout mice, challenged orally with Salmonella dublin.
AUTHOR: Marriott I; Thomas E K; Bost K L
CORPORATE SOURCE: Department of Biology, University of North Carolina at Charlotte, Charlotte, North Carolina 28223, USA.
CONTRACT NUMBER: AI32976 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (1999 Oct) 67 (10) 5253-7.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 19991026
Last Updated on STN: 19991026
Entered Medline: 19991014

AB Interactions between CD40 expressed on macrophages and CD40 ligand expressed on T lymphocytes can be an important signal for optimal macrophage activation. Previous studies have demonstrated that the optimal response against certain intracellular pathogens (e.g., **Crytosporidium** and Leishmania spp.) by macrophages requires CD40-CD40 ligand interactions. However, this finding is not universal, since two recent reports utilizing CD40 knockout mice have shown no such contribution to the protective immune response against Mycobacterium tuberculosis or Histoplasma capsulatum. We demonstrate here that CD40-CD40 ligand interactions are significant events in the protective response against the intracellular pathogen Salmonella dublin in normal mice but not for animals genetically deficient in CD40 ligand expression. Treating BALB/c mice exogenously with a CD40 agonist (i.e., soluble trimeric CD40

ligand) increased resistance against a lethal, orally administered dose of S. dublin. Conversely, in vivo administration of a monoclonal **antibody** against CD40 ligand to block endogenous CD40-CD40 ligand interactions resulted in a decreased resistance to salmonellosis. In contrast, CD40 ligand knockout mice demonstrated no increased susceptibility to salmonellosis. In vitro treatment of Salmonella-infected macrophages from BALB/c mice with soluble trimeric CD40 ligand resulted in an elevated production of interleukin 12p70 by these cells, suggesting a mechanism whereby CD40-CD40 ligand interactions might enhance protective immune responses to this pathogen. Taken together, these studies strongly suggest that CD40-CD40 ligand interactions in normal mice play an important protective role in immune responses against the gram-negative, intracellular pathogen S. dublin.

L5 ANSWER 23 OF 38 MEDLINE
ACCESSION NUMBER: 77066605 MEDLINE
DOCUMENT NUMBER: 77066605 PubMed ID: 793692
TITLE: Pathological and microbiological observations made on spontaneous cases of acute neonatal calf diarrhea.
AUTHOR: Morin M; Lariviere S; Lallier R
SOURCE: CANADIAN JOURNAL OF COMPARATIVE MEDICINE, (1976 Jul) 40 (3) 228-40.
Journal code: 0151747. ISSN: 0008-4050.
PUB. COUNTRY: Canada
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197702
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19900313
Entered Medline: 19770224

AB The purpose of this report is to describe clinical signs, gross and microscopic lesions, bacteriological and immunofluorescence observations made on spontaneous cases of acute neonatal calf diarrhea (NCD) in dairy and beef herds. The following diagnostic tools were used: 1) direct smears of intestinal content, 2) Escherichia coli counts, 3) aerobic bacterial cultures of the small intestine and other organs (The O serogroup and the enterotoxigenicity of the E. coli isolated was determined), 4) detection of the two Nebraska NCD viruses (reo-like and corona-like) by the fluorescent **antibody** technique and 5) histological examination on different segments of the digestive tract. The following etiological diagnoses were suggested after post mortem examination of 55 cases of NDC (34 were submitted alive): reo-like virus only (1), reo-like virus + E. coli (4), reo-like virus + cryptosporidium (2), reo- + corona-like viruses (5), reo- + corona-like viruses + cryptosporidium (3), reo- + corona-like viruses + infectious bovine rhinotracheitis virus (1), coronavirus-like agent only (2), coronavirus-like agent + mycotic abomasitis (1), coronavirus-like agent + **crytosporidium** (1), E. coli only (6), cryptosporidium only (5), mycotic abomasitis (3), mycotic rumenitis + reticulitis (1) and undetermined (20). Most of the calves in the last group were submitted dead.

L5 ANSWER 24 OF 38 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 2002:47887 SCISEARCH
THE GENUINE ARTICLE: 508JM
TITLE: Occurrence of Cryptosporidium and Giardia in wild ducks along the Rio Grande River valley in southern New Mexico
AUTHOR: Kuhn R C; Rock C M; Oshima K H (Reprint)
CORPORATE SOURCE: New Mexico State Univ, Dept Biol, Dept 3AF, POB 30001, Las Cruces, NM 88003 USA (Reprint); New Mexico State Univ, Dept Biol, Las Cruces, NM 88003 USA
COUNTRY OF AUTHOR: USA
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (JAN 2002) Vol. 68, No. 1, pp. 161-165.
Publisher: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.

ISSN: 0099-2240.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 39
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Fecal samples were taken from wild ducks on the lower Rio Grande River around Las Cruces, N. Mex., from September 2000 to January 2001. Giardia cysts and Cryptosporidium oocysts were purified from 69 samples by sucrose enrichment followed by cesium chloride (CsCI) gradient centrifugation and were viewed via fluorescent-**antibody** (FA) staining. For some samples, recovered cysts and oocysts were further screened via PCR to determine the presence of Giardia lamblia and **Crytosporidium** parvum. The results of this study indicate that 49% of the ducks were carriers of Cryptosporidium, and the Cryptosporidium oocyst concentrations ranged from 0 to 2,182 oocysts per g of feces (mean +/- standard deviation, 47.53 +/- 270.3 oocysts per g); also, 28% of the ducks were positive for Giardia, and the Giardia cyst concentrations ranged from 0 to 29,293 cysts per g of feces (mean standard deviation, 436 +/- 3,525.4 cysts per g). Of the 69 samples, only 14 had (oo)cyst concentrations that were above the PCR detection limit. Samples did test positive for Cryptosporidium sp. However, C. parvum and G. lamblia were not detected in any of the 14 samples tested by PCR. Ducks on their southern migration through southern New Mexico were positive for Cryptosporidium and Giardia as determined by FA staining, but C. parvum and G. lamblia were not detected.

L5 ANSWER 25 OF 38 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 2000:446777 SCISEARCH
THE GENUINE ARTICLE: 322KH
TITLE: First findings of Cryptosporidium and Giardia in California sea lions (Zalophus californianus)
AUTHOR: Deng M Q; Peterson R P; Cliver D O (Reprint)
CORPORATE SOURCE: UNIV CALIF DAVIS, SCH VET MED, DEPT POPULAT HLTH & REPROD, 1 SHIELDS AVE, DAVIS, CA 95616 (Reprint); UNIV CALIF DAVIS, SCH VET MED, DEPT POPULAT HLTH & REPROD, DAVIS, CA 95616
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF PARASITOLOGY, (JUN 2000) Vol. 86, No. 3, pp. 490-494.
Publisher: AMER SOC PARASITOLOGISTS, 810 EAST 10TH STREET, LAWRENCE, KS 66044.
ISSN: 0022-3395.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 16
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We report the detection and identification of Cryptosporidium and Giardia from 1 of 3 species of pinnipeds. Fecal samples were collected from Pacific harbor seal (Phoca vitulina richardsi). northern elephant seal (Mirounga angustirostris), and California sea lion (Zalophus californianus) in the northern California coastal area. By means of fluorescently labeled monoclonal **antibodies**, Cryptosporidium oocysts were detected in 3 samples from California sea lions, 1 of which also contained Giardia cysts. Oocysts of Cryptosparidium and cysts of Giardia were morphologically indistinguishable from oocysts of C. parvum and cysts of G. duodenalis from other animal origins. Oocysts and cysts were then purified using immunomagnetic separation techniques and identified by polymerase chain reaction (PCR), from which species-specific products were obtained. Sequence analysis revealed that the 452-bp and 358-bp PCR products of **Crytosporidium** isolated from California sea lion had identities of 98% with sequences of their template fragments of C. parvum obtained from infected calves. Based on morphological, immunological, and genetic characterization, the isolates were identified as C. parvum and G. duodenalis, respectively. The findings suggested that California sea lions could serve as reservoirs in the environmental

transmission of Cryptosporidium and Giardia.

L5 ANSWER 26 OF 38 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 1999:750325 SCISEARCH
THE GENUINE ARTICLE: 240ET
TITLE: CD40-CD40 ligand interactions augment survival of normal mice, but not CD40 ligand knockout mice, challenged orally with Salmonella dublin
AUTHOR: Marriott I; Thomas E K; Bost K L (Reprint)
CORPORATE SOURCE: UNIV N CAROLINA, DEPT BIOL, 9201 UNIV CITY BLVD, CHARLOTTE, NC 28223 (Reprint); UNIV N CAROLINA, DEPT BIOL, CHARLOTTE, NC 28223; IMMUNEX RES & DEV CORP, SEATTLE, WA 98101
COUNTRY OF AUTHOR: USA
SOURCE: INFECTION AND IMMUNITY, (OCT 1999) Vol. 67, No. 10, pp. 5253-5257.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0019-9567.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 33
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Interactions between CD40 expressed on macrophages and CD40 ligand expressed on T lymphocytes can be an important signal for optimal macrophage activation. Previous studies have demonstrated that the optimal response against certain intracellular pathogens (e,g., **Crytosporidium** and Leishmania spp,) by macrophages requires CD40-CD40 ligand interactions, However, this finding is not universal, since two recent reports utilizing CD40 knockout mice have shown no such contribution to the protective immune response against Mycobacterium tuberculosis or Histoplasma capsulatum, We demonstrate here that CD40-CD40 ligand interactions are significant events in the protective response against the intracellular pathogen Salmonella dublin in normal mice but not for animals genetically deficient in CD40 ligand expression. Treating BALB/c mice exogenously with a CD40 agonist (i,e., soluble trimeric CD40 ligand) increased resistance against a lethal, orally administered dose of S. dublin, Conversely, in vivo administration of a monoclonal **antibody** against CD40 ligand to block endogenous CD40-CD40 ligand interactions resulted in a decreased resistance to salmonellosis, In contrast, CD40 ligand knockout mice demonstrated no increased susceptibility to salmonellosis, In vitro treatment of Salmonella-infected macrophages from BALB/c mice with soluble trimeric CD40 ligand resulted in an elevated production of interleukin 12p70 by these cells, suggesting a mechanism whereby CD40-CD40 ligand interactions might enhance protective immune responses to this pathogen, Taken together, these studies strongly suggest that CD40-CD40 ligand interactions in normal mice play an important protective role in immune responses against the gram-negative, intracellular pathogen S. dublin.

L5 ANSWER 27 OF 38 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 97:689837 SCISEARCH
THE GENUINE ARTICLE: XV495
TITLE: Unique cultural methods used to detect viable Cryptosporidium parvum oocysts in environmental samples
AUTHOR: Slifko T R (Reprint); Friedman D E; Rose J B; Upton S J; Jakubowski W
CORPORATE SOURCE: UNIV S FLORIDA, ST PETERSBURG, FL 33701 (Reprint); KANSAS STATE UNIV, MANHATTAN, KS 66506; US EPA, CINCINNATI, OH 45268
COUNTRY OF AUTHOR: USA
SOURCE: WATER SCIENCE AND TECHNOLOGY, (AUG 1997) Vol. 35, No. 11-12, pp. 363-368.
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD, ENGLAND OX5 1GB.

ISSN: 0273-1223.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: AGRI
LANGUAGE: English
REFERENCE COUNT: 12

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB **Crytosporidium** parvum is an infectious enteric protozoan parasite that causes waterborne disease, severe gastroenteritis and is associated with high mortality in immunocompromised individuals. Detection of oocysts in water is very difficult and current methodologies do not determine viability. This project has focused on low level detection of Cryptosporidium parvum in environmental samples using a unique cultural method. Previously, cell culture methods have been used to assess the developmental stages of Cryptosporidium; however, no cultural methods have been employed with environmental samples. The percentage of viable oocysts can be estimated by detecting intracellular developmental stages of the parasite using fluorescently labelled **antibodies**. Other methods are not capable of low level detection or high sensitivity. We are evaluating detection of single foci of infection, indicating that one of the four sporozoites released from the viable oocyst has infected a single cell. (C) 1997 IAWQ. Published by Elsevier Science Ltd.

L5 ANSWER 28 OF 38 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 91:84219 SCISEARCH
THE GENUINE ARTICLE: EV982
TITLE: CRYPTOSPORIDIUM INFECTION IN ACQUIRED-IMMUNODEFICIENCY-SYNDROME - NOT ALWAYS A POOR PROGNOSIS
AUTHOR: SALTZBERG D M (Reprint); KOTLOFF K L; NEWMAN J L; FASTIGGI R
CORPORATE SOURCE: UNIV MARYLAND, SCH MED, DEPT MED, DIV GASTROENTEROL, BALTIMORE, MD, 21201; UNIV MARYLAND, SCH MED, DEPT PEDIAT, BALTIMORE, MD, 21201
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF CLINICAL GASTROENTEROLOGY, (1991) Vol. 13, No. 1, pp. 94-97.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: CLIN
LANGUAGE: ENGLISH
REFERENCE COUNT: 31

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Chronic diarrhea and malabsorption accompanied by simultaneous infection with the protozoa Giardia lamblia and **Crytosporidium** occurred in a 22-year-old homosexual man with **antibody** to human immunodeficiency virus (HIV). Small bowel biopsy demonstrated total villous atrophy and marked mononuclear infiltration in the lamina propria simulating celiac disease. Treatment with metronidazole resulted in resolution of diarrhea, clearance of parasites, and marked improvement in small bowel histology. Although diarrhea and malabsorption in immunocompromised patients with cryptosporidiosis are regarded as ominous, our patient remained disease free for the next 3 years. Thus, infection with **Crytosporidium** in patients with HIV does not always lead to intractable diarrhea or death.

L5 ANSWER 29 OF 38 USPATFULL
ACCESSION NUMBER: 2003:33298 USPATFULL
TITLE: Methods for detection of **Crytosporidium** species and isolates and for diagnosis of Cryptosporidium infections
INVENTOR(S): Petersen, Carolyn, San Diego, CA, United States
Barnes, Debra A., Oakland, CA, United States
Nelson, Richard C., Sausalito, CA, United States
Gut, Jiri, Novato, CA, United States
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

NUMBER KIND DATE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6514697	B1	20030204
APPLICATION INFO.:	US 2000-588995		20000606 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-827171, filed on 27 Mar 1997, now patented, Pat. No. US 6254869 Continuation-in-part of Ser. No. US 1997-928361, filed on 12 Sep 1997, now patented, Pat. No. US 6071518 Continuation-in-part of Ser. No. US 1996-700651, filed on 14 Aug 1996, now patented, Pat. No. US 6015882 Continuation-in-part of Ser. No. US 1995-415751, filed on 3 Apr 1995, now patented, Pat. No. US 5643772 Continuation of Ser. No. US 1993-71880, filed on 1 Jun 1993, now abandoned Continuation-in-part of Ser. No. US 1992-891301, filed on 29 May 1992, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-26062P	19960913 (60)
	US 1996-14233P	19960327 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Whisenant, Ethan C.
LEGAL REPRESENTATIVE: Verny, Hana
NUMBER OF CLAIMS: 34
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT: 4181
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Cryptosporidium GP900, P68 and cryptopain antigens, **antibodies**, DNA or RNA for detection of Cryptosporidium in biological and environmental samples. A method for diagnosis of cryptosporidiosis. Kits and assays for the detection of Cryptosporidium comprising antigens, **antibody**, DNA or RNA components for immunological detection of Cryptosporidium protein with **antibody**, or detection of Cryptosporidium DNA by PCR amplification with GP900, P68 or cryptopain primers and probes for hybridization.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 30 OF 38 USPATFULL
ACCESSION NUMBER: 2002:323079 USPATFULL
TITLE: Photosensitizer conjugates for pathogen targeting
INVENTOR(S): Hasan, Tayyaba, Arlington, MA, UNITED STATES
Hamblin, Michael R., Revere, MA, UNITED STATES
Soukos, Nikos, Revere, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002183245	A1	20021205
APPLICATION INFO.:	US 2002-143593	A1	20020509 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 1997-812606, filed on 6 Mar 1997, PENDING
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FROMMER LAWRENCE & HAUG, 745 FIFTH AVENUE- 10TH FL., NEW YORK, NY, 10151
NUMBER OF CLAIMS: 56
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 2695
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Conjugate molecules which include photosensitizer compositions conjugated to non-**antibody** non-affinity pair targeting moieties and methods of making and using such conjugates are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 31 OF 38 USPATFULL
ACCESSION NUMBER: 2002:268754 USPATFULL
TITLE: Compositions and methods for prevention and treatment of protozoal disease
INVENTOR(S): Hundley, Bruce, Versailles, KY, United States
Maclin, Robert, Lexington, KY, United States
PATENT ASSIGNEE(S): New Ace Research Company, Versailles, KY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6465460	B1	20021015
APPLICATION INFO.:	US 2001-806975		20010913 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-103543P	19981008 (60)
	US 1998-112175P	19981214 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Krass, Frederick
ASSISTANT EXAMINER: Jagoe, Donna
LEGAL REPRESENTATIVE: Sutherland Asbill & Brennan, LLP
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 1132
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A composition is provided that has been specially adapted for parenteral administration, e.g., intranasal, intramuscular, subcutaneous, transdermal or intraveneous administration, wherein the composition is comprised of at least one anti-protozoal drug in a therapeutically effective amount for the treatment or prevention of protozoan infections in man and in animals. In one embodiment, the anti-protozoal drug is a triazine-based anticoccidial agent, e.g., a triazinedione or triazinetrione such as diclazuril, toltrazuril, sulfonotoltrazuril or water-soluble sodium salts thereof. In a presently preferred embodiment, the triazine-based anticoccidial agent is sulfonototrazuril. Methods of treatment of protozoal infections in man and animals are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 32 OF 38 USPATFULL
ACCESSION NUMBER: 2002:265841 USPATFULL
TITLE: Compositions, methods and kits for determining the presence of cryptosporidium parvum organisms in a test sample
INVENTOR(S): Cunningham, Melissa M., Gresham, OR, UNITED STATES
Stull, Paul D., San Diego, CA, UNITED STATES
Weisburg, William G., San Diego, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002146717	A1	20021010
APPLICATION INFO.:	US 2001-954586	A1	20010911 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-232028P	20000912 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: GEN PROBE INCORPORATED, 10210 GENETIC CENTER DRIVE, SAN DIEGO, CA, 92121
NUMBER OF CLAIMS: 86
EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 4209
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes novel oligonucleotides targeted to nucleic acid sequences derived from Cryptosporidium organisms, and Cryptosporidium parvum organisms in particular, which are useful for determining the presence of Cryptosporidium organisms in a test sample. The oligonucleotides of the present invention include hybridization assay probes, helper probes and amplification primers. The present invention further describes a novel method for obtaining purified ribonucleic acid from viable oocysts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 33 OF 38 USPATFULL
ACCESSION NUMBER: 2002:262378 USPATFULL
TITLE: Photosensitizer conjugates for pathogen targeting
INVENTOR(S): Hasan, Tayyaba, Arlington, MA, United States
Hamblin, Michael R., Revere, MA, United States
Soukos, Nikos, Revere, MA, United States
PATENT ASSIGNEE(S): The General Hospital Corporation, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6462070	B1	20021008
APPLICATION INFO.:	US 1997-812606		19970306 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Travers, Russell
LEGAL REPRESENTATIVE: Frommer Lawrence & Haug LLP, Kowalski, Thomas J., Leahy, Amy
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 2666
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Conjugate molecules which include photosensitizer compositions conjugated to non-**antibody** non-affinity pair targeting moieties and methods of making and using such conjugates are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 34 OF 38 USPATFULL
ACCESSION NUMBER: 2002:164417 USPATFULL
TITLE: Compositions and vaccines containing antigen(s) of cryptosporidium parvum and of another pathogen
INVENTOR(S): Audonnet, Jean-Christophe, Lyon, FRANCE
Gallo, Guillermo, Athens, GA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002086031	A1	20020704
APPLICATION INFO.:	US 2000-742512	A1	20001220 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-171399P	19991221 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: William S. Frommer, c/o FROMMER LAWRENCE & HAUG LLP, 745 Fifth Avenue, New York, NY, 10151
NUMBER OF CLAIMS: 55
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Page(s)
LINE COUNT: 2400

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Combination compositions including C. parvum antigen(s) or epitope(s) of interest with at least one other antigen or epitope of interest from a pathogen that causes enteric infection and/or symptoms and/or recombinant(s) and/or vector(s) and/or plasmid(s) expressing such antigen(s) or epitope(s) of interest and administration of such compositions such as to pregnant mammals and/or newborn or young mammals, for instance, pregnant cows and/or calves such as within the first month of birth, are disclosed and claimed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 35 OF 38 USPATFULL

ACCESSION NUMBER: 2000:153489 USPATFULL

TITLE: Method for the detection of viable Cryptosporidium parvum oocysts

INVENTOR(S): Williams, Keith Leslie, Frenchs Forest, Australia
Vesey, Graham, Drummoyne, Australia
Veal, Duncan, Turramurra, Australia
Ashbolt, Nicholas John, Potts Point, Australia
Dorsch, Matthias, Lane Cove, Australia

PATENT ASSIGNEE(S): Macquarie Research, Ltd., Sydney, Australia (non-U.S. corporation)
Australian Water Technologies Pty. Ltd., Sydney, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6146855		20001114	
	WO 9634978		19961107	
APPLICATION INFO.:	US 1998-952376		19980303	(8)
	WO 1996-AU274		19960506	
			19980303	PCT 371 date
			19980303	PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1995-2831	19950505

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Arthur, Lisa B.
ASSISTANT EXAMINER: Enewold, Jeanine
LEGAL REPRESENTATIVE: Barnes & Thornburg, Martin, Alice O.
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1,4
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 516

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Oligonucleotide molecules and methods are disclosed for the detection of viable oocysts or other cells of the protozoa species, Cyrptosporidium parvum. Preferred oligonucleotide molecules are selected from the group comprising oligonucleotides having one or more of the following sequences: (a) ACA ATT ATT, (b) CTT TTT GGT, (c) ATT TTA TAT AAA ATA TTT TGA TGA A, (d) TTT TTT TTT TTA GTA T, (e) TAT ATT TTT TAT CTG, (f) CTT TAC TTA CAT GGA TAA CCG, or comprising a part of the sequences (a) to (f) above so as to allow specific hybridization to unique 18S rRNA sequences of C. parvum.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 36 OF 38 USPATFULL

ACCESSION NUMBER: 2000:88187 USPATFULL

TITLE: Nitro-[2,1-b]imidazopyran compounds and antibacterial uses thereof

INVENTOR(S): Baker, William R., Bellevue, WA, United States
Shaopei, Cai, Seattle, WA, United States

Keeler, Eric L., Seattle, WA, United States
PATENT ASSIGNEE(S): PathoGenesis Corporation, Seattle, WA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6087358		20000711
APPLICATION INFO.:	US 1997-924559		19970905 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1996-US10904, filed on 25 Jun 1996 which is a continuation-in-part of Ser. No. US 1995-496850, filed on 26 Jun 1995, now patented, Pat. No. US 5668127
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Shah, Mukund J.
ASSISTANT EXAMINER: Truong, Tamthom N.
LEGAL REPRESENTATIVE: Christensen O'Connor Johnson & Kindness PLLC
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 2361
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods, compounds and compositions are provided for inhibiting the growth of pathogenic microbes in vitro and of treatment of pathogenic bacterial infections, such as mycobacterial, Clostridium, Cryptosporidium and Helicobacter infections, in vivo using bicyclic nitroimidazole compounds of the formula (II): ##STR1## wherein R.sub.1 is hydrogen, halogen, loweralkyl, haloloweralkyl, cycloalkyl, heterocycle, substituted heterocycle and heterocyclicalkyl; X is oxygen, sulfur or NR.sub.2, where R.sub.2 is hydrogen, loweralkyl, aryl, cycloalkyl, heterocycle, substituted heterocycle, heterocyclicalkyl, COR.sub.3 or SO.sub.2 R.sub.4 CONR.sub.4 R.sub.5, where R.sub.3, R.sub.4 and R.sub.5 are independently selected from hydrogen, loweralkyl, aryl, alkylaryl, alkoxyalkyl, alkoxyaryl, alloxyalkoxyaryl, alkylheterocycle, and alkoxyheterocycle; n is 1, 2 or 3; Y and Z are independently selected from oxygen, CH.sub.2, CO, CR.sub.4 R.sub.5 or NR.sub.4, where R.sub.4 and R.sub.5 are as defined above; provided that when n is 2 or 3, the compounds of formula II can be additionally substituted as follows: ##STR2## wherein R.sub.6, R.sub.7, R.sub.8 and R.sub.9 are independently selected from hydrogen, loweralkyl, aryl, alkylaryl, alkoxyalkyl, alkoxyalkylaryl, alkoxyalkylheterocycle, alkylary2alkylaryl, alkylarylaryl, alkylcycloalkyl, alkoxyaryl, alkylheterocycle, and alkoxyheterocycle; and the pharmaceutically acceptable salts thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 37 OF 38 USPATFULL
ACCESSION NUMBER: 1999:40171 USPATFULL
TITLE: Methods and articles of manufacture for the detection of cryptosporidium occysts
INVENTOR(S): Crabb, Joseph H., Newfield, ME, United States
Turner, Nathan, Newmarket, NH, United States
PATENT ASSIGNEE(S): ImmuCell Corporation, Portland, ME, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5888748		19990330
APPLICATION INFO.:	US 1995-502328		19950713 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Portmer, Ginny Allen
LEGAL REPRESENTATIVE: Farrell, Kevin M.
NUMBER OF CLAIMS: 16

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 785
AB Embodiments of the present invention relate to methods and articles of manufacture for the detection of Giardia cysts and **Crytosporidium** oocysts.

L5 ANSWER 38 OF 38 USPATFULL
ACCESSION NUMBER: 97:56538 USPATFULL
TITLE: Cryptosporidium hybrid vector and transformed host cells
INVENTOR(S): Petersen, Carolyn, Berkeley, CA, United States
Leech, James, Daly City, CA, United States
Nelson, Richard C., San Francisco, CA, United States
Gut, Jiri, Novato, CA, United States
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5643772		19970701
APPLICATION INFO.:	US 1995-415751		19950403 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1993-71880, filed on 1 Jun 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-891301, filed on 29 May 1992, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Portner, Ginny Allen
LEGAL REPRESENTATIVE: Verny, Hana
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 2279
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention comprises a Cryptosporidium hybrid vector comprising a regulatory DNA segment operably coupled to a DNA fragment encoding a polypeptide to which anti-Cryptosporidium **antibodies** specifically bind and transformed host cells comprising the hybrid vectors.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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(FILE 'HOME' ENTERED AT 19:20:21 ON 24 MAR 2003)

FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH, USPATFULL, JAPIO' ENTERED AT 19:20:29 ON 24 MAR 2003

L1	133	S	CRYTOSPORIDIUM
L2	62	S	L1 AND OOCYSTS
L3	1	S	L2 AND IGG1
L4	4	S	L2 AND IGG
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Enzyme-linked immunosorbent assay for the detection of Cryptosporidium parvum IgG in the serum of cats.

Lappin MR, Ungar B, Brown-Hahn B, Cooper CM, Spilker M, Thrall MA, Hill SL, Cheney J, Taton-Allen G.

Department of Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins 80523, USA.

The objective was to develop an enzyme-linked immunosorbent assay (ELISA) for the detection of Cryptosporidium parvum IgG in the serum of cats. The ELISA was an indirect ELISA using soluble C. parvum oocyst antigens and a peroxidase-labeled anti-feline IgG secondary antibody. Sera from cats with Toxocara felis, Giardia spp., Aelurostrongylus abstrusus, Isospora felis, Isospora rivolta, Toxoplasma gondii, or Taenia spp. infections were assayed in specificity studies. Following optimization, the ELISA and fecal examination for oocysts were performed on samples from 170 client-owned or humane society source cats and 1 cat inoculated orally with C. parvum oocysts. Cryptosporidium parvum oocysts were detected in feces (4/170; 2.4%), and C. parvum IgG was detected in serum (26/170; 15.3%) from naturally exposed cats. The seroprevalence data suggest that some cats in the geographical area studied were exposed to C. parvum, but persistent oocyst shedding was less common. The ELISA is not useful for predicting oocyst shedding in individual cats.

PMID: 9379309 [PubMed - indexed for MEDLINE]

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Chronologic change of serum IgG antibody response in chickens reinfected with Cryptosporidium baileyi.

Rhee JK, Kim HC, Park BK.

Bio-Safety Research Institute, Chonbuk National University, Chonju, Korea.

Eight 2-day-old SPF chickens were each inoculated orally with a single dose of 5 x 10(5) oocysts of Cryptosporidium baileyi, and immunoglobulin G (IgG) antibody responses were chronologically measured by indirect immunofluorescent antibody (IFA) assay. Anti-C. baileyi IgG antibody levels remained high (1:106.67 to 1:512.00) for at least 4 months with 330 days of a detectable period. Ten days after the negative conversion, each chicken was re-challenged with 1 x 10(7) oocysts of the same species. Subsequent infection in 340-day-old individuals caused sudden elevated IgG antibody levels and the titer peaked on day 28 postchallenge inoculation (PCI), at 1:1.024 with a 65 days of detection period. Chickens in primary infection showed oocyst shedding profiles, but did not exhibit any oocyst shedding before or after experimental reinfection.

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Serum antibody response in lambs naturally and experimentally infected with Cryptosporidium parvum.

Ortega-Mora LM, Troncoso JM, Rojo-Vazquez FA, Gomez-Bautista M.

Departamento de Patologia Animal I (Sanidad Animal), Facultad de Veterinaria, Universidad Complutense de Madrid, Spain.

The immunoglobulin (IgG), IgM and IgA responses in Castellana-Manchega cross-bred colostrum-deprived and colostrum-fed lambs infected neonatally with Cryptosporidium parvum were measured using an enzyme-linked immunosorbent assay. A comparison of oocyst shedding and anti-C. parvum serum IgG levels in lambs suffering either natural or experimental infection was undertaken. Effects on the oocyst shedding and IgG levels of C. parvum rechallenge at 30 and 120 days of age in neonatally infected lambs were also evaluated. Anti-C. parvum immunoglobulin levels in colostrum-deprived animals peaked on Day 30 of life for IgG and on Day 15 for IgM and IgA. Lambs that received maternal colostrum showed elevated anti-C. parvum IgG, IgM and IgA levels at 3 days old indicating a transfer of colostral immunoglobulins. Experimentally infected lambs showed a IgG response similar to naturally infected lambs, suggesting that the serum IgG response is independent of the infective dose. Finally, lambs rechallenged at 30 and 120 days old did not show either appreciable oocyst shedding or any increase in their anti-C. parvum IgG levels when compared with prechallenged animals.

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Chronologic change of serum IgG antibody response in chickens reinfected with Cryptosporidium baileyi.
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Serum antibody response in lambs naturally and experimentally infected with Cryptosporidium parvum.
Vet Parasitol. 1993 Oct;50(1-2):45-54.
PMID: 8291196 [PubMed - indexed for MEDLINE]

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Gamma interferon functions in resistance to Cryptosporidium parvum infection in severe combined immunodeficient mice.
Infect Immun. 1993 Aug;61(8):3548-51.
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Neutralisation of Cryptosporidium parvum sporozoites by immunoglobulin and non-immunoglobulin components in serum.
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Detection of oocysts and IgG antibodies to Cryptosporidium parvum in asymptomatic adult cattle.
Vet Parasitol. 1993 Mar;47(1-2):9-15.
PMID: 8493772 [PubMed - indexed for MEDLINE]

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Serologic evidence of Cryptosporidium infection in US volunteers before and during Peace Corps service in Africa.
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The antibody response to Cryptosporidium: development of a serological test and its use in a study of immunologically normal persons.
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Quantification of specific antibody response to Cryptosporidium antigens by laser densitometry.
Infect Immun. 1986 Jul;53(1):124-8.
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Enzyme immunoassay detection of immunoglobulin M and G antibodies to Cryptosporidium in immunocompetent and immunocompromised persons.
J Infect Dis. 1986 Mar;153(3):570-8.
PMID: 3950440 [PubMed - indexed for MEDLINE]

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Enzyme immunoassay detection of immunoglobulin M and G antibodies to Cryptosporidium in immunocompetent and immunocompromised persons.

Ungar BL, Soave R, Fayer R, Nash TE.

Cryptosporidium is a parasite of the human gastrointestinal tract and has a worldwide distribution. We developed a sensitive and reproducible enzyme immunoassay for detection of serum IgG or IgM to Cryptosporidium. For IgG, 13 of 15 patients with cryptosporidiosis and 26 of 26 patients with cryptosporidiosis and AIDS were positive, whereas 57 of 60 presumably uninfected individuals were negative. All three IgG-positive presumably uninfected individuals had been potentially exposed. Sensitivity and specificity of this assay was 95%. Patients without AIDS showed an early rise and fall of IgM and later elevation of IgG; some patients with AIDS produced IgM, and all produced IgG. Sera from 9 (20.9%) of 44 Ecuadorian children with diarrhea were positive for both IgM and IgG antibodies; 106 sera from persons with other parasitic illnesses showed a normal distribution for IgG antibody. These ELISA data show that patients without and with AIDS have serum antibody response to Cryptosporidium and suggest that exposure to or infection with Cryptosporidium is common.

PMID: 3950440 [PubMed - indexed for MEDLINE]

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Neutralisation of Cryptosporidium parvum sporozoites by immunoglobulin and non-immunoglobulin components in serum.

Hill BD, Dawson AM, Blewett DA.

Moredun Research Institute, Edinburgh.

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Sporozoites of Cryptosporidium parvum were incubated in 1:10 dilutions of immune or non-immune, heat-inactivated lamb serum specimens or serum fractions. The infectivity of treated sporozoites was assessed by inoculating them, per rectum, into five-day-old rats followed by histological examination of their intestines at either three or five days after infection. The infectivity of sporozoites treated with heat-inactivated whole sera was greatly reduced. This neutralisation had both specific and non-specific components. The former was associated with the IgG fraction of hyperimmune serum raised against sporozoites and the latter with a heat-stable, non-dialysable component present in both IgG-depleted hyperimmune serum and uninfected gnotobiotic serum.

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Detection of oocysts and IgG antibodies to Cryptosporidium parvum in asymptomatic adult cattle.

Lorenzo Lorenzo MJ, Ares-Mazas E, Villacorta Martinez de Maturana I.

Department of Microbiology and Parasitology, Faculty of Pharmacy, University of Santiago de Compostela, La Coruna, Spain.

Infection by Cryptosporidium was detected in 94 (71.75%) asymptomatic adult cattle from 131 fecal samples examined microscopically. In two cases Cryptosporidium oocysts were observed which were distinctly larger (5.5-6.5 microns x 6.6-7.0 microns) than those we had seen in the majority of feces examined (4.0-4.5 microns x 4.0-4.5 microns) and these specimens were considered to be Cryptosporidium muris; it is possible that the other oocysts should be considered as Cryptosporidium parvum. The seroprevalence of IgG antibodies to Cryptosporidium was 63.35% as detected by indirect fluorescent antibody test (IFAT) and 51.41% by enzyme-linked immunosorbent assay (ELISA). In 27 cases, the presence of IgG antibodies to Cryptosporidium (as tested by IFAT and ELISA) in serum samples was correlated with oocyst excretion.

PMID: 8493772 [PubMed - indexed for MEDLINE]

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Serologic evidence of Cryptosporidium infection in US volunteers before and during Peace Corps service in Africa.

Ungar BL, Mulligan M, Nutman TB.

Division of Tropical Public Health, Uniformed Services University of the Health Sciences, Bethesda, Md 20814-4799.

To obtain prevalence data on Cryptosporidium infection in healthy US adults and to determine how often Cryptosporidium infection occurs after relocation to a situation of potentially great exposure, an enzyme-linked immunosorbent assay for anti-Cryptosporidium IgM or IgG was used to examine serum from 75 US Peace Corps volunteers before overseas service and after up to two years in West Africa. Of the volunteers, 32% had detectable anti-Cryptosporidium IgG initially, suggesting that infection sometime in life is common. After six weeks, one year, or two years overseas, 5% (1/19), 14% (8/56), and 13.6% (3/22), respectively, became newly IgG positive. This implies that the risk of acquiring Cryptosporidium infection and its associated diarrhea is real for travelers and temporary workers in endemic areas. Persistence of IgG and/or IgM response for 12 months or more occurred in some volunteers, although the significance is unclear.

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Measurement of class specific antibody against cryptosporidium in serum and faeces from experimentally infected calves.

Williams RO, Burden DJ.

North East Surrey College of Technology, Ewell.

Anti-cryptosporidium antibody levels were measured in serum and faeces of experimentally infected calves. In serum, IgG was detectable six days after infection and remained elevated throughout infection. IgA and IgM in serum showed little change. IgG, IgA and IgM levels all rose in the faeces five or six days after infection and reached a peak between days 8 and 14 after infection and then declined.

PMID: 3685641 [PubMed - indexed for MEDLINE]

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The antibody response to Cryptosporidium: development of a serological test and its use in a study of immunologically normal persons.

Casemore DP.

The demonstration of an immune response in the relatively newly recognised infection of human beings, cryptosporidiosis, is essential for assessing pathogenicity, for diagnostic purposes, and for epidemiological studies. In addition, serological methods may be applied to the detection and definitive identification of the parasite. Earlier reports were of histologically based methods with tissue from experimentally infected animals and did not define the nature of the response. The method described here is simple and rapid. It may be done in laboratories not equipped to perform the earlier methods. Results confirm that oocysts may be used to detect antibody in the blood of human beings, to determine when sero-conversion takes place and to define the nature of the response in terms of the class of immunoglobulin. Some sero-epidemiological observations have been made.

PMID: 3553337 [PubMed - indexed for MEDLINE]

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Quantification of specific antibody response to Cryptosporidium antigens by laser densitometry.

Ungar BL, Nash TE.

Cryptosporidium spp. is a protozoan parasite with worldwide distribution associated with diarrhea in immunocompromised patients (particularly those with acquired immunodeficiency syndrome [AIDS]) and in immunocompetent humans. Immunoglobulin M (IgM) and IgG antibody responses are readily detected by an enzyme-linked immunosorbent assay. To determine which Cryptosporidium antigens invoke antibody responses in humans, we performed polyacrylamide gel electrophoresis using purified oocysts, followed by Western blots with human sera from various populations. Of 40 sera from persons with cryptosporidiosis (24 AIDS and 16 non-AIDS patients), in 37 (93%) a 23,000-dalton antigen measured quantitatively by laser densitometry was recognized. Of 63 sera from IgM- or IgG-positive individuals, as determined by enzyme-linked immunosorbent assay, in 58 (92%) this same antigen was recognized. Up to three additional bands between 125,000 and 175,000 daltons were identified by some of these sera. These results suggest that most persons infected with Cryptosporidium spp. produce antibodies which recognize at least one common low-molecular-weight antigen. Isolation of this antigen will be useful in development of diagnostic tests and may be important in the study of immunity.

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A simple method for evaluating Cryptosporidium-specific antibodies used in monitoring environmental water samples.

Vesey G, Deere D, Weir CJ, Ashbolt N, Williams KL, Veal DA.

Macquarie University Centre for Analytical Biotechnology, School of Biological Sciences, Macquarie University, Sydney, NSW, Australia. gvesy@rna.bio.mq.edu.au

A simple method is described for the evaluation and quality control of Cryptosporidium-specific antibodies used in monitoring environmental water samples. Purified oocysts were fluorescently labelled with a test antibody at the appropriate concentration. Labelled oocysts were analysed using flow cytometry and a region was defined on a bivariate dotplot of fluorescence versus light scatter that enclosed all oocysts. Concentrates of environmental water samples that did not contain oocysts were then incubated with the test antibody and analysed using flow cytometry. The number of particles that appeared in the region defined for oocysts was recorded and was a measure of non-specific binding. The technique provides a simple, rapid and quantitative tool for both evaluating the binding specificity of test antibodies and optimizing sample staining conditions.

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Simple and rapid measurement of Cryptosporidium excystation using flow cytometry.

Vesey G, Griffiths KR, Gauci MR, Deere D, Williams KL, Veal DA.

Macquarie University Centre for Analytical Biotechnology, School of Biological Sciences, Macquarie University, Sydney, NSW, Australia.
gvesey@rna.bio.mq.edu.au

In vitro excystation is commonly used to determine the viability of samples of purified Cryptosporidium parvum oocysts. Following exposure to conditions that stimulate excystation, samples are examined microscopically to determine the number of excysted oocysts. The microscopy procedure is tedious and time consuming, and difficult to apply to most oocyst samples without a purification step. A simple flow cytometric method was developed for determining the numbers of oocysts that had excysted following the in vitro excystation procedure. Differences in light-scatter properties were used to differentiate intact, partially empty and empty oocysts. By staining samples with a monoclonal antibody specific to the oocyst wall it was possible to apply the technique to unpurified oocysts from faeces. Correlation of the flow cytometric and microscopic method was statistically significant ($P < 0.05$), resulting in a calculated correlation coefficient of 0.994. The flow cytometry method is faster and more sensitive than the microscopy procedure, and enables analysis of large numbers of samples and of many thousands of oocysts in each sample.

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Routine monitoring of Cryptosporidium oocysts in water using flow cytometry.

Vesey G, Slade JS, Byrne M, Shepherd K, Dennis PJ, Fricker CR.

Thames Water Utilities Ltd, Spencer House Laboratories, Reading, UK.

A flow cytometric method for the routine analysis of environmental water samples for the presence of Cryptosporidium oocysts has been developed. It uses a Coulter Epics Elite flow cytometer to examine water samples and to separate oocysts from contaminating debris by cell sorting. The sorted particles are then rapidly screened by microscopy. The method has been evaluated and compared with direct epifluorescence microscopy on 325 river, reservoir and drinking water samples. The technique was found to be more sensitive, faster and easier to perform than conventional epifluorescent microscopy for the routine examination of water samples for Cryptosporidium.

PMID: 8365959 [PubMed - indexed for MEDLINE]

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International Journal for Parasitology
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Simple and Rapid Measurement of Cryptosporidium Excystation Using Flow Cytometry

G. Vesey[a, *], K. R. Griffiths[a], M. R. Gauci[b], D. Deere[a], K. L. Williams[a] and D. A. Veal[a]

[a] Macquarie University Centre for Analytical Biotechnology, School of Biological Sciences, Macquarie University, North Ryde Sydney, NSW 2109 Australia
[b] Centre for Lasers and Applications, Macquarie University, North Ryde Sydney, NSW 2109 Australia

Received 31 December 1996; accepted 27 June 1997. Available online 14 January 1998.

Abstract

In vitro **excystation is commonly used to determine the viability of samples of purified *Cryptosporidium parvum* oocysts. Following exposure to conditions that stimulate excystation, samples are examined microscopically to determine the number of excysted oocysts. The microscopy procedure is tedious and time consuming, and difficult to apply to most oocyst samples without a purification step. A simple flow cytometric method was developed for determining the numbers of oocysts that had excysted following the *in vitro* excystation procedure. Differences in light-scatter properties were used to differentiate intact, partially empty and empty oocysts. By staining samples with a monoclonal antibody specific to the oocyst wall it was possible to apply the technique to unpurified oocysts from faeces. Correlation of the flow cytometric and microscopic method was statistically significant ($P < 0.05$), resulting in a calculated correlation coefficient of 0.994. The flow cytometry method is faster and more sensitive than the microscopy procedure, and enables analysis of large numbers of samples and of many thousands of oocysts in each sample.**

Author Keywords: *Cryptosporidium*; oocysts; excystation; flow cytometry; viability

Index Terms: cryptosporidium

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*Corresponding author.

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Volume 27, Issue 11 , November 1997 , Pages 1353-1359

Water Research
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doi:10.1016/S0043-1354(98)00398-4 Cite or link using doi

Comparison of *Cryptosporidium*-specific and *Giardia*-specific monoclonal antibodies for monitoring water samples

B. C. Ferrari[a, b, *], G. Vesey[a, b], C. Weir[a, b], K. L. Williams[a] and D. A. Veal[a, b]

[a] Centre for Analytical Biotechnology, School of Biological Sciences, Macquarie University, Sydney, NSW 2109, Australia
[b] Australian Environmental Flow Cytometry Group, Macquarie University, Sydney, NSW 2109, Australia

Received 1 June 1998; accepted 1 September 1998. Available online 15 March 1999.

Abstract

Routine detection of *Cryptosporidium* oocysts and *Giardia* cysts depend on immunofluorescence assays (IFA) employing fluorescently labeled monoclonal antibodies. Commercially available mAbs used for the detection of *Cryptosporidium* oocysts are of the IgM or IgG3 subclass, whilst those used for *Giardia* analysis are of IgM and IgG classes including IgG1. These mAbs suffer from non-specific binding to detrital particles present in environmental samples resulting in high levels of background fluorescence. New mAbs of the IgG1 subclass to *Giardia* and *Cryptosporidium* selected primarily for water analysis have recently become available. These antibodies exhibited lower levels of non-specific particulate binding compared with commercially available antibodies. The degree of background fluorescence observed following mAb staining of particles that were not oocysts or cysts varied between the water types analysed.

Author Keywords: *Cryptosporidium*; *Giardia*; water testing; monoclonal antibodies; flow cytometry; detection

Index Terms: Water analysis; Water quality; Monoclonal antibodies; Protozoa; Fluorescence; Flow cytometry

*Author to whom all correspondence should be addressed. [Fax: +61-2-9850-8253; e-mail: bferrari@rna.bio.mq.edu.au]

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International Journal for Parasitology
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Viable Cryptosporidium parvum oocysts exposed to chlorine or other oxidising conditions may lack identifying epitopes

A. G. Moore[1, 2], G. Vesey[2], A. Champion[2], P. Scandizzo[1], D. Deere[3], D. Veal[3] and K. L. Williams[3, *]

[1] Department of Biological Sciences University of Western Sydney-Nepean, Westmead, Sydney, NSW 2145 Australia

[2] CSIRO Australia, Division of Animal Production, Sydney, NSW 2148, Australia

[3] Macquarie University Centre for Analytical Biotechnology, School of Biological Sciences, Macquarie University, Sydney, NSW 2109, Australia

Received 10 November 1997. Available online 27 December 1999.

Abstract

The intestinal protozoan parasite *Cryptosporidium parvum* is a known cause of water-borne disease in humans. The detection of *Cryptosporidium* oocysts in water samples relies upon the use of fluorescently labelled antibodies, preferably using flow cytometry and epifluorescence microscopy. Here we demonstrate that four commercially available antibodies recognise a similar set of immunodominant epitopes on the oocyst wall. These epitopes appear to be carbohydrate in nature and are labile to chlorine treatment and oxidising conditions. Sodium hypochlorite and sodium meta-periodate reduced the ability of the antibodies to detect *Cryptosporidium* oocysts. Damage to the epitopes did not necessarily reduce the viability of oocysts. This finding may be important for the water industry, where naturally occurring oxidising conditions or sanitising treatments could produce viable oocysts that are undetectable using standard protocols.

Author Keywords: *Cryptosporidium parvum*; Oocyst; Antibody; Sodium hypochlorite; Sodium meta-periodate; Flow cytometry; Western blotting

*Corresponding author. Tel: (61-2) 9850-8212; Fax: (61-2) 9850-8174.

International Journal for Parasitology
Volume 28, Issue 8 , 1 August 1998 , Pages 1205-1212

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The Infectivity of Cryptosporidium parvum in Healthy Volunteers

Herbert L. DuPont, M.D., Cynthia L. Chappell, Ph.D., Charles R. Sterling, Ph.D., Pablo C. Okhuysen, M.D., Joan B. Rose, Ph.D., and Walter Jakubowski

ABSTRACT

Background Small numbers of *Cryptosporidium parvum* oocysts can contaminate even treated drinking water, and ingestion of oocysts can cause diarrheal disease in normal as well as immunocompromised hosts. Since the number of organisms necessary to cause infection in humans is unknown, we performed a study to determine the infective dose of the parasite in healthy adults.

Methods After providing informed consent, 29 healthy volunteers without evidence of previous *C. parvum* infection, as determined by the absence of anti-cryptosporidium–specific antibodies, were given a single dose of 30 to 1 million *C. parvum* oocysts obtained from a calf. They were then monitored for oocyst excretion and clinical illness for eight weeks. Household contacts were monitored for secondary spread.

Results Of the 16 subjects who received an intended dose of 300 or more oocysts, 14 (88 percent) became infected. After a dose of 30 oocysts, one of five subjects (20 percent) became infected, whereas at a dose of 1000 or more oocysts, seven of seven became infected. The median infective dose, calculated by linear regression, was 132 oocysts. Of the 18 subjects who excreted oocysts after the challenge dose, 11 had enteric symptoms and 7 (39 percent) had clinical cryptosporidiosis, consisting of diarrhea plus at least one other enteric symptom. All recovered, and there were no secondary cases of diarrhea among household contacts.

Conclusions In healthy adults with no serologic evidence of past infection with *C. parvum,* a low dose of *C. parvum* oocysts is sufficient to cause infection.

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Address reprint requests to Dr. DuPont at St. Luke's Episcopal Hospital, 6720 Bertner Ave., MCI-164, Rm. P153, Houston, TX 77030.

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